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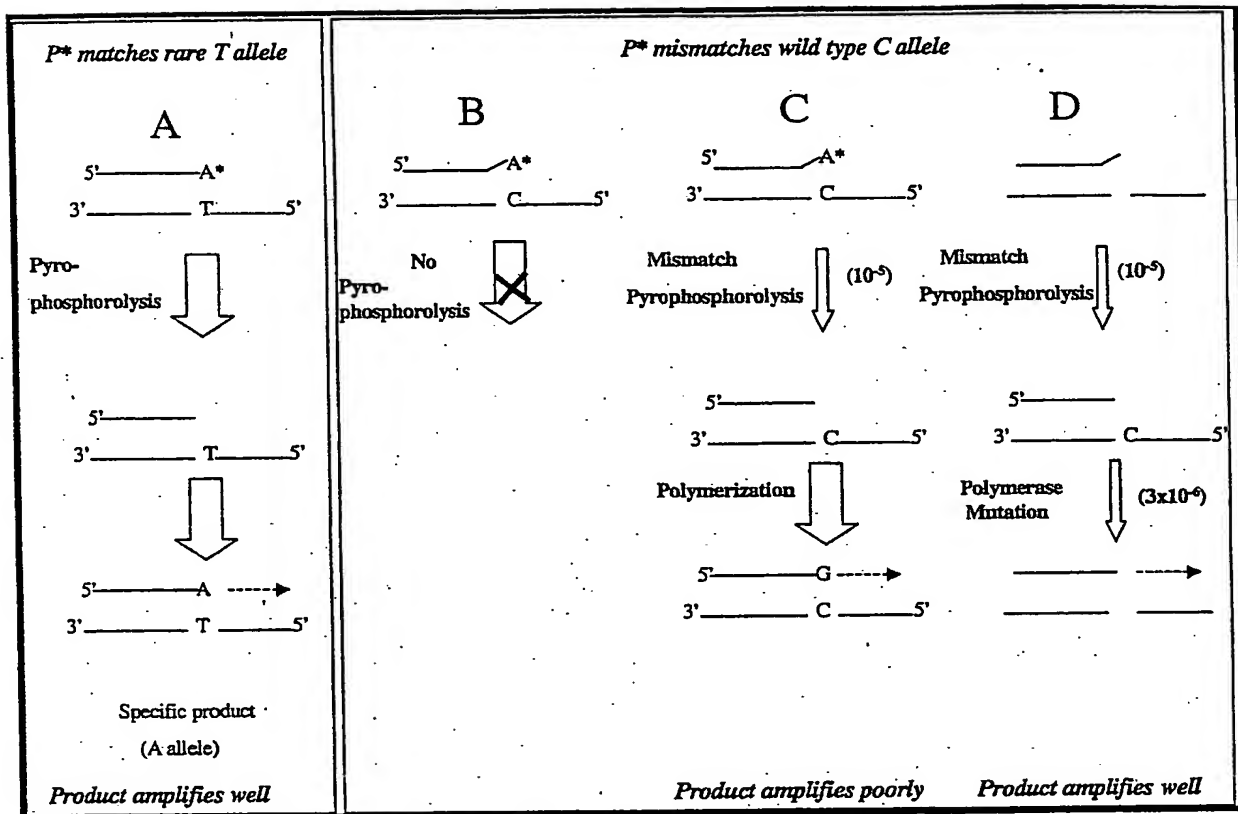


FIG. 1

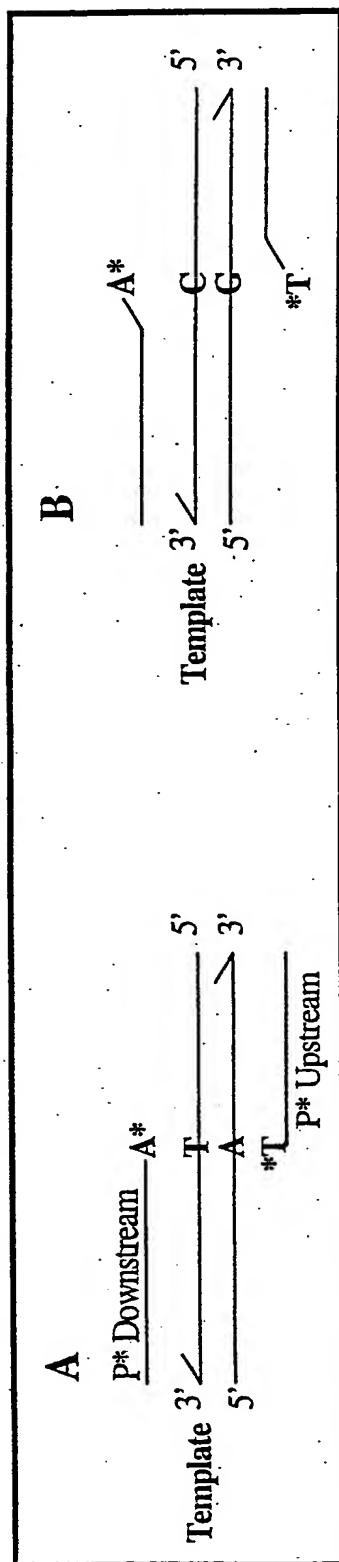


FIG. 2

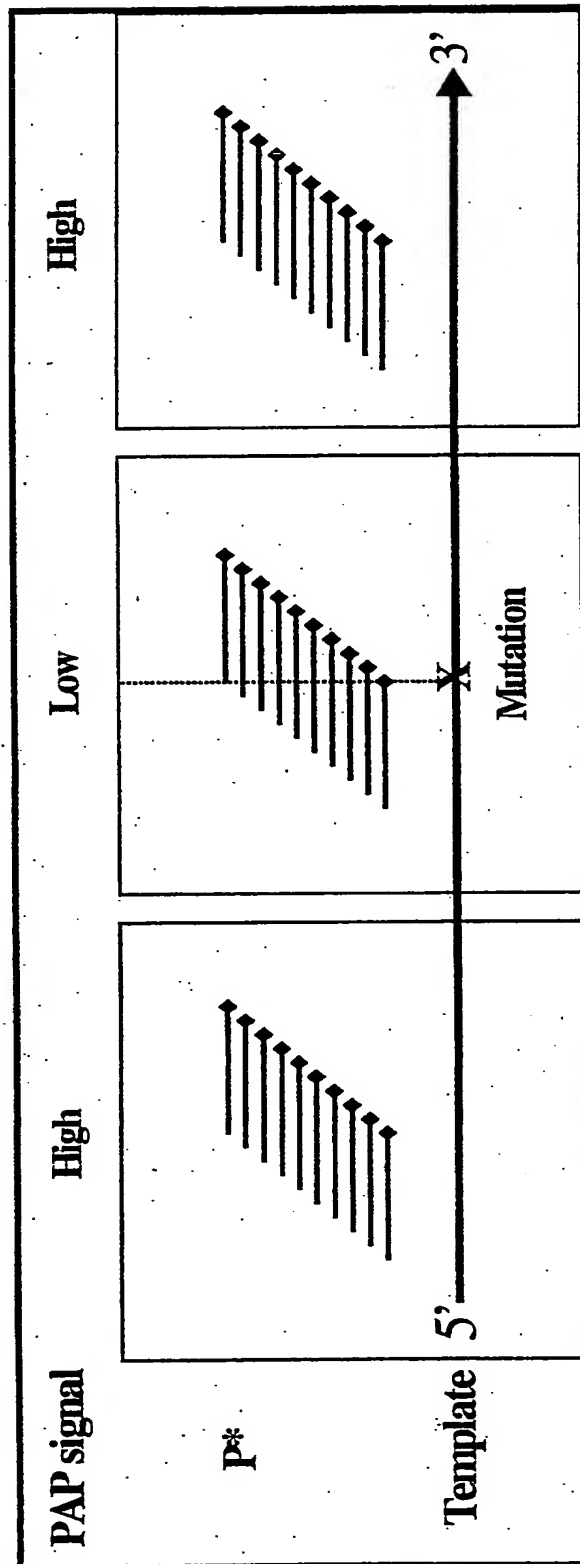


FIG. 3

**5'-3' sense strand of the wild type sequence**

C	T	G	C	T	T	G	G	G	A	A	C	T	T	G	A	G	G	G	T	G	T	C	A	G
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

### PAP signal with dye-labeled dideoxynucleoside triphosphates

[illegible]

### Base calling: wild type template

CTGCTTGGGAACCTTAGGGTGTCAAG

## B. G→A mutation

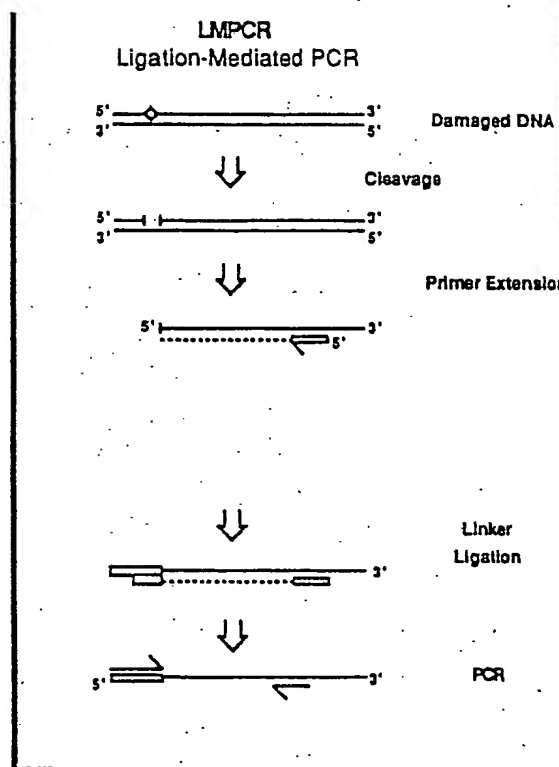
[illegible]

<----- 15 base blank signal window ----->

### Base calling: G-A mutation

[illegible]

**FIG. 4**



**FIG. 5**

FIG. 6A

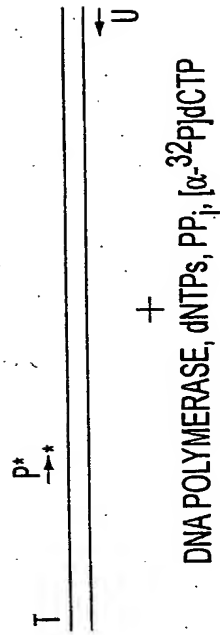


FIG. 6B

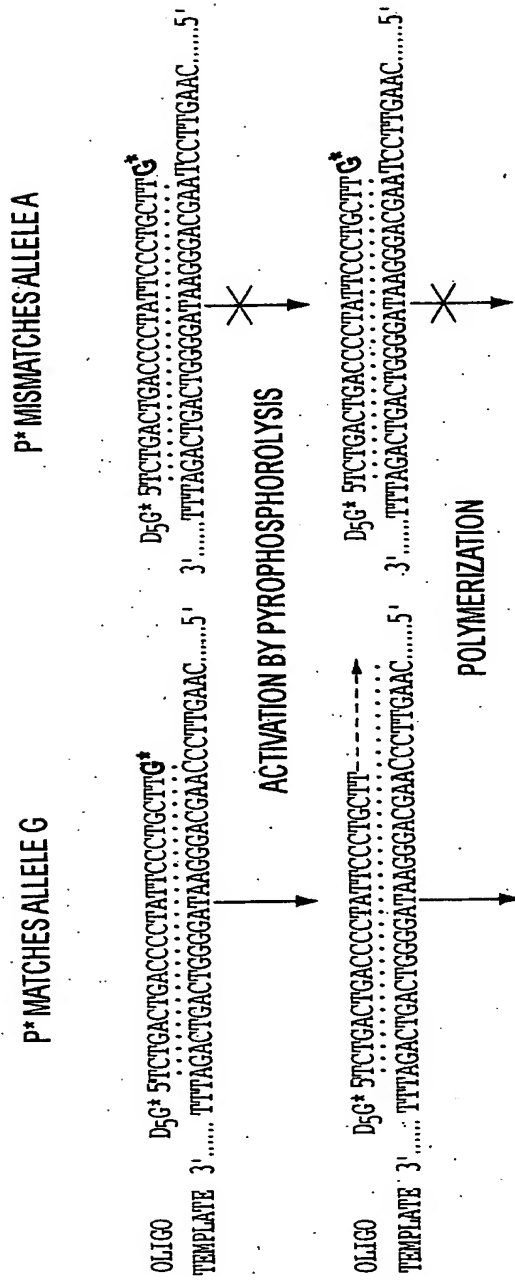


FIG. 6C

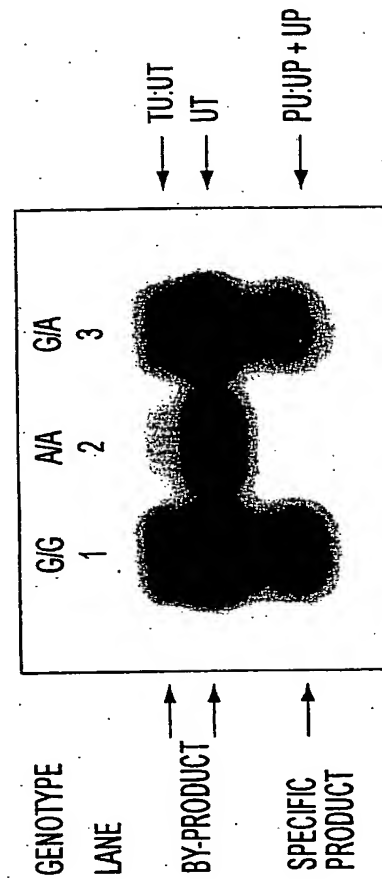


FIG. 7A

PASA

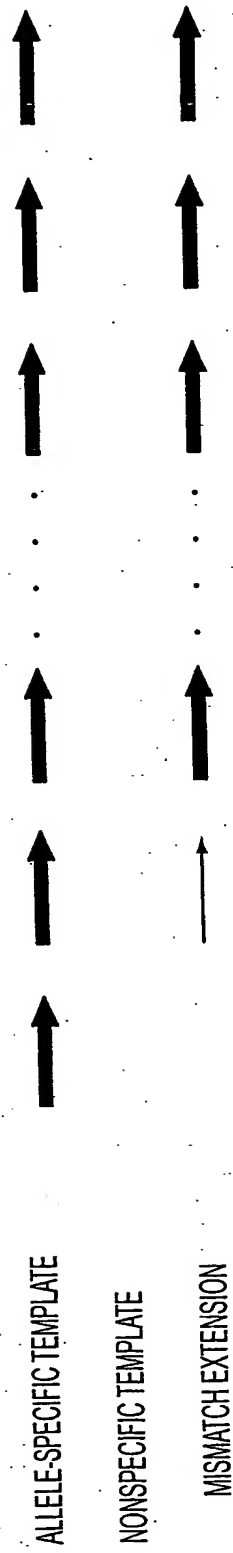
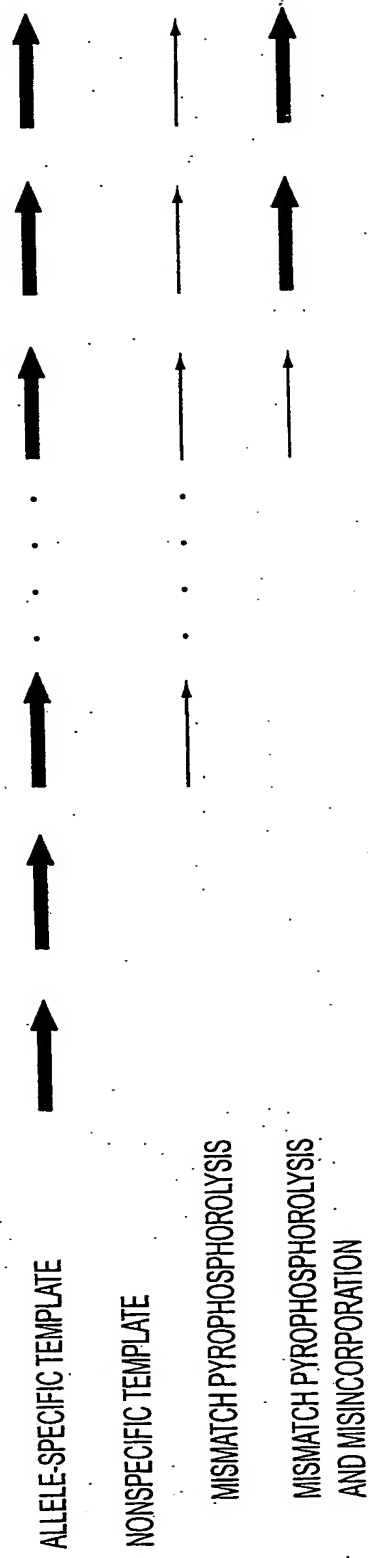


FIG. 7B

PAP





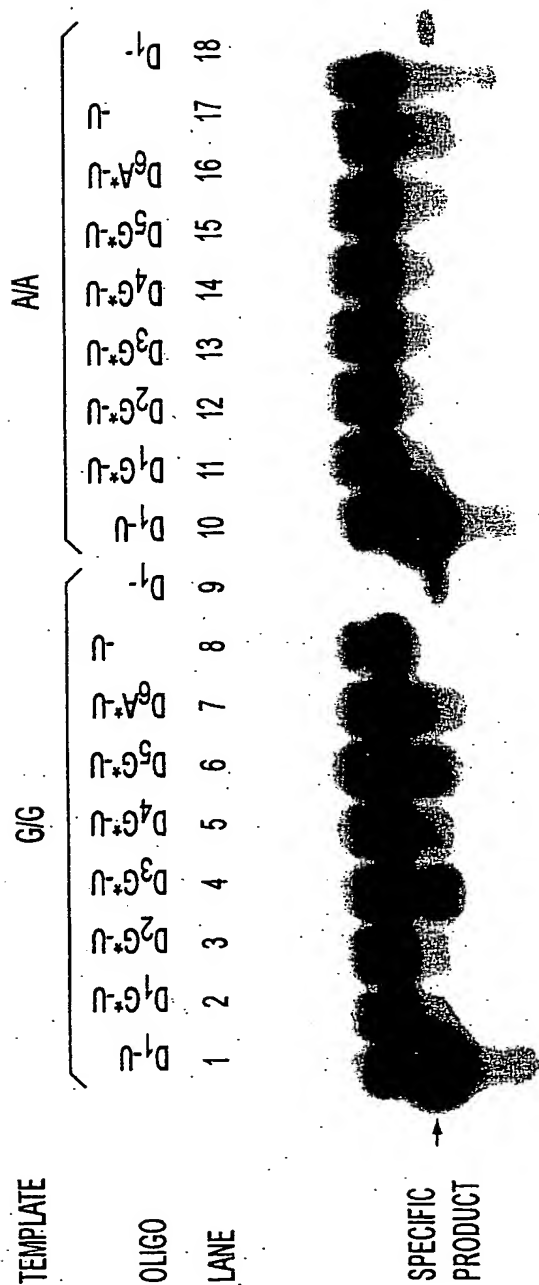


FIG. 8A

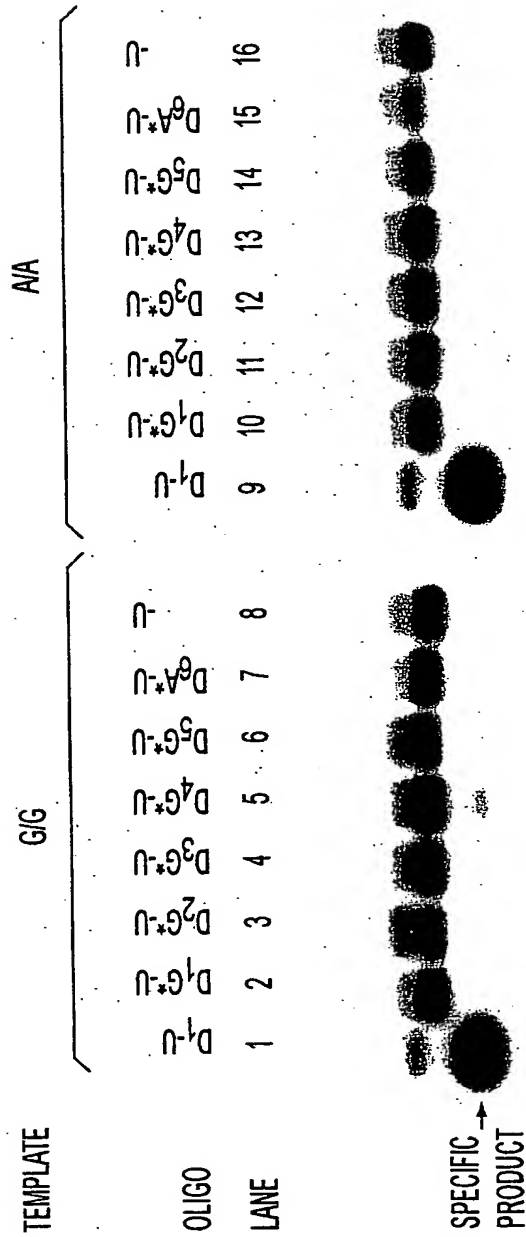
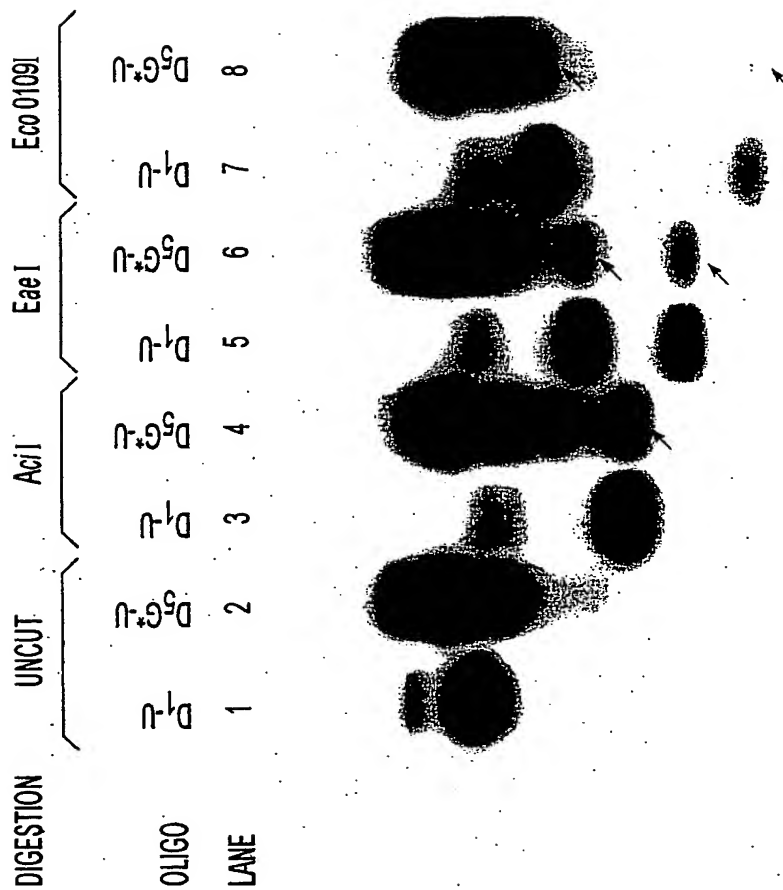


FIG. 8B



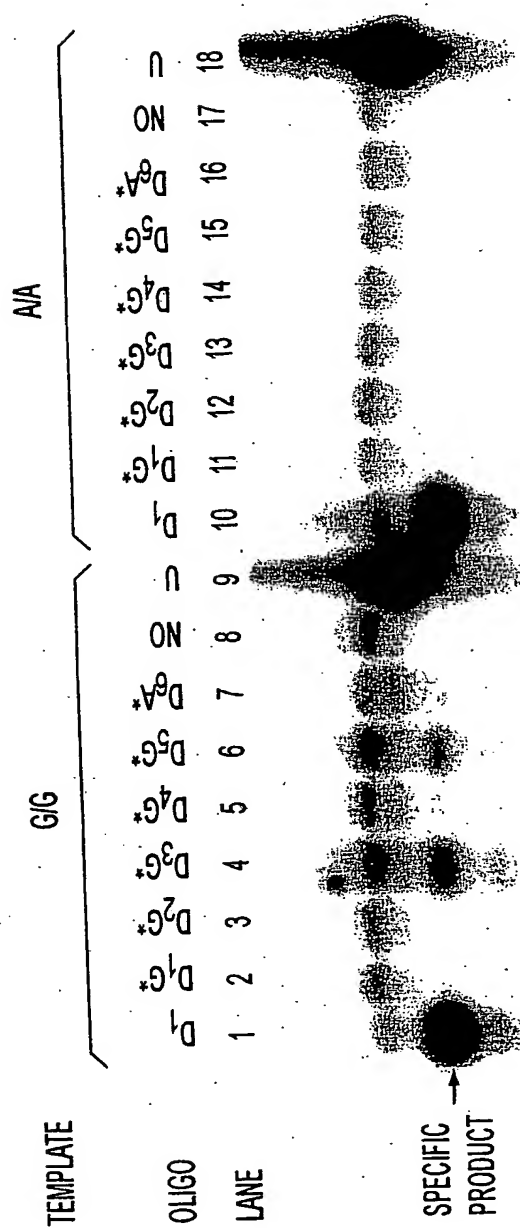
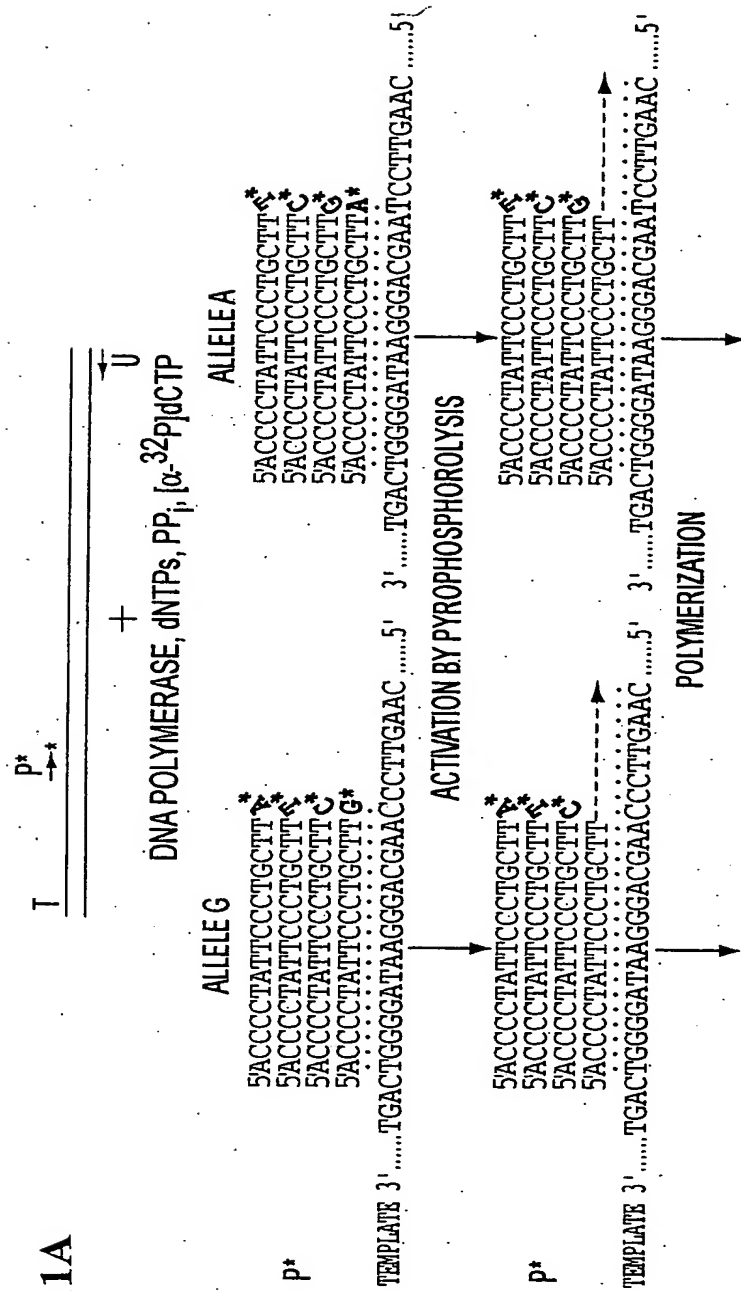
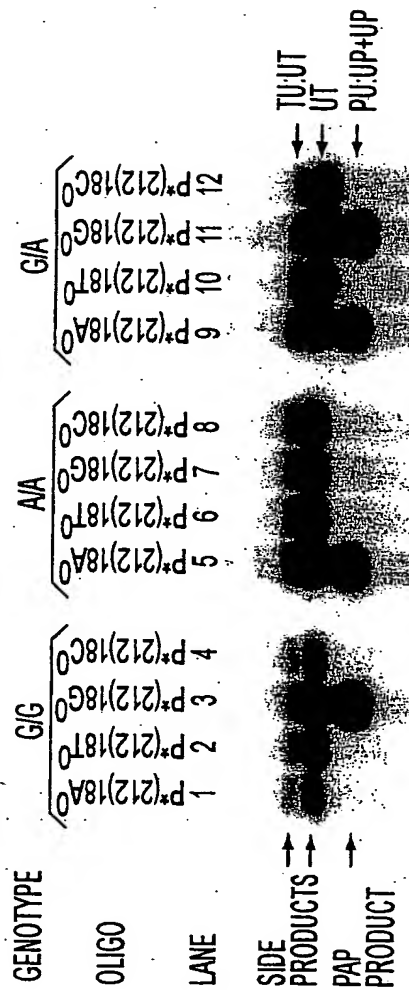


FIG. 10



**FIG. 11B**



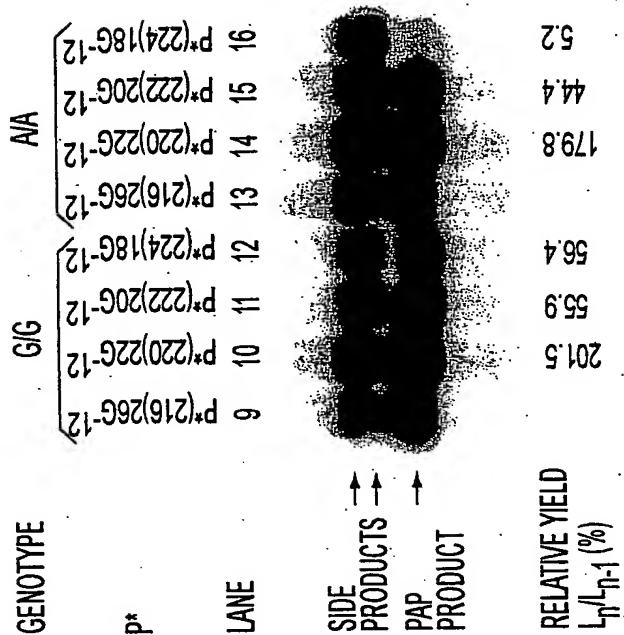


FIG. 12A

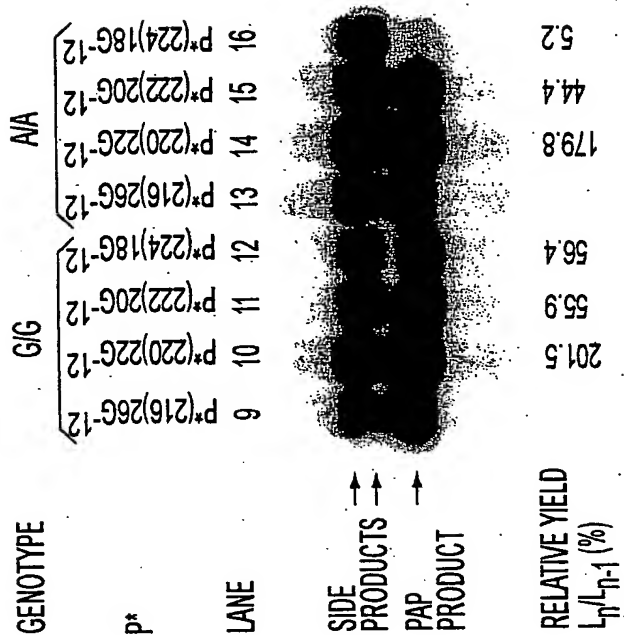


FIG. 12B

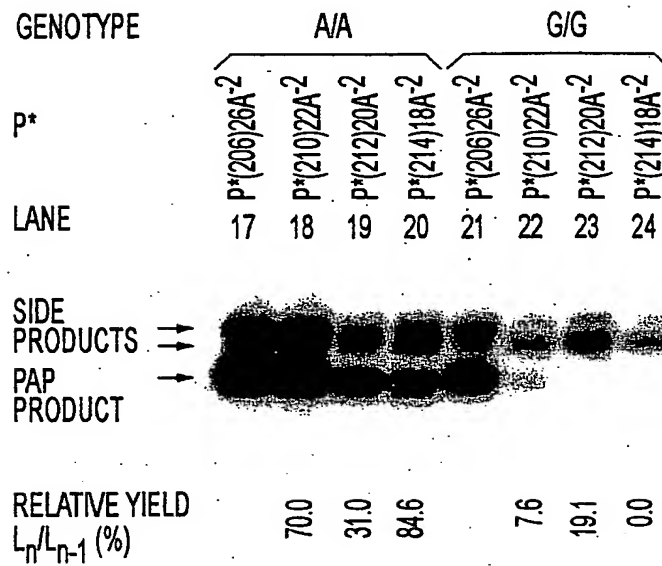


FIG. 12C

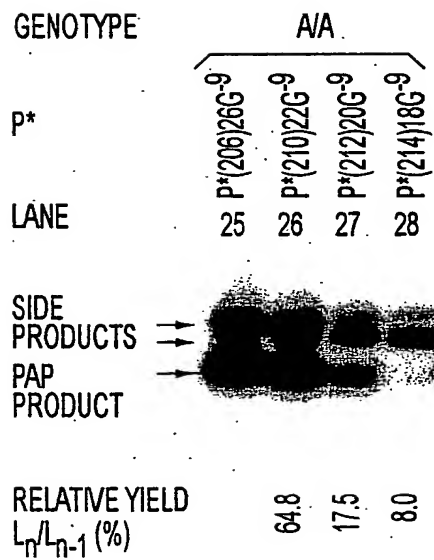


FIG. 12D

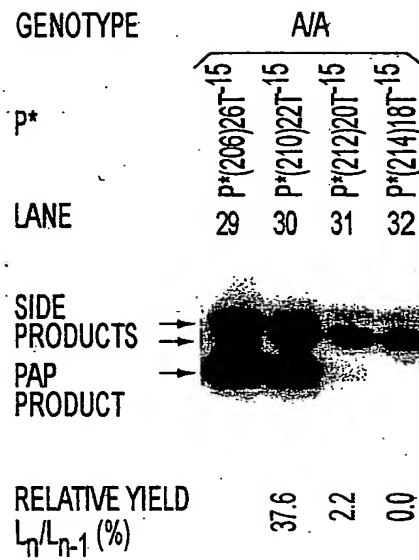


FIG. 12E

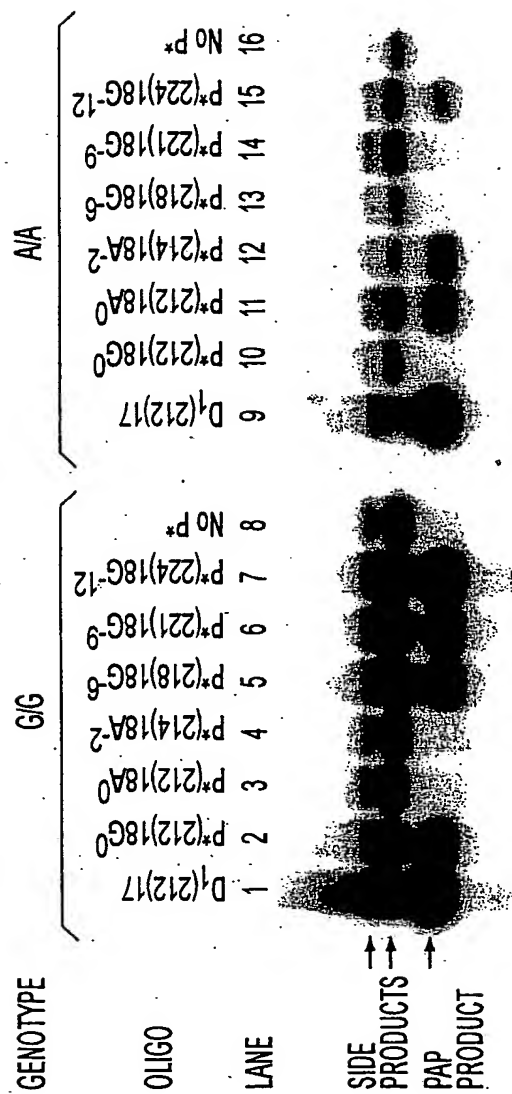
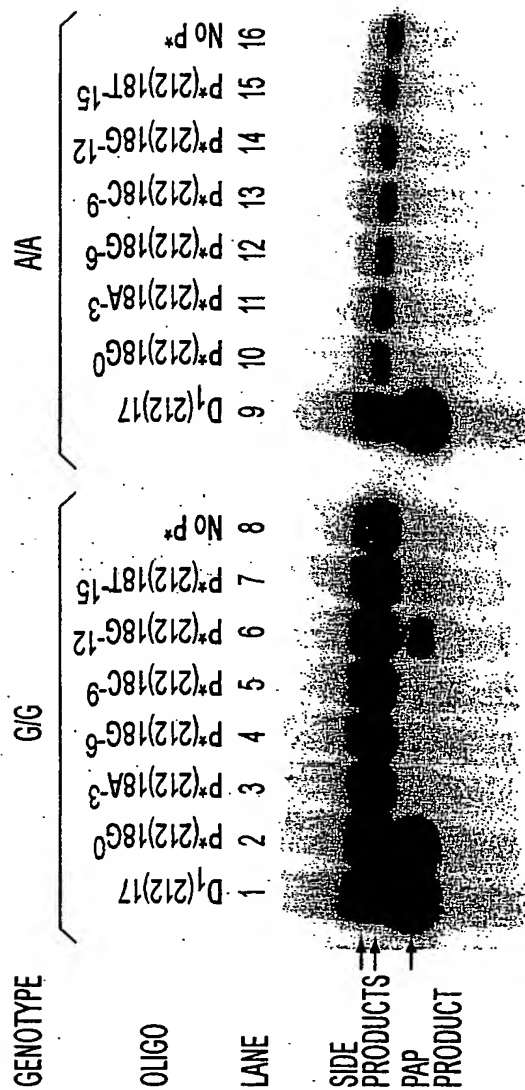


FIG. 13





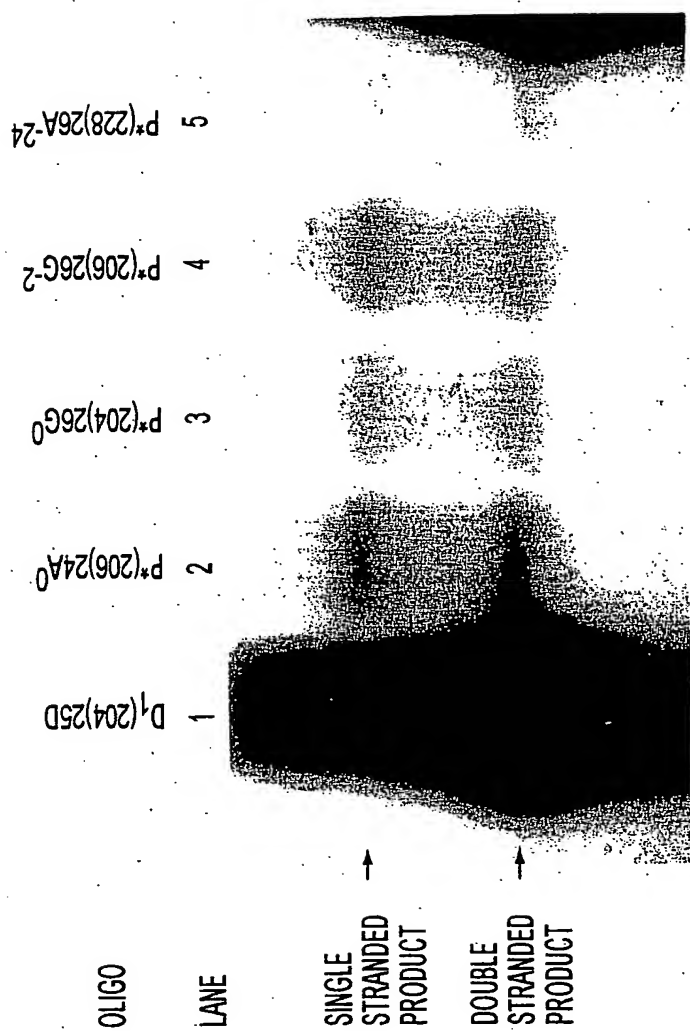


FIG. 15

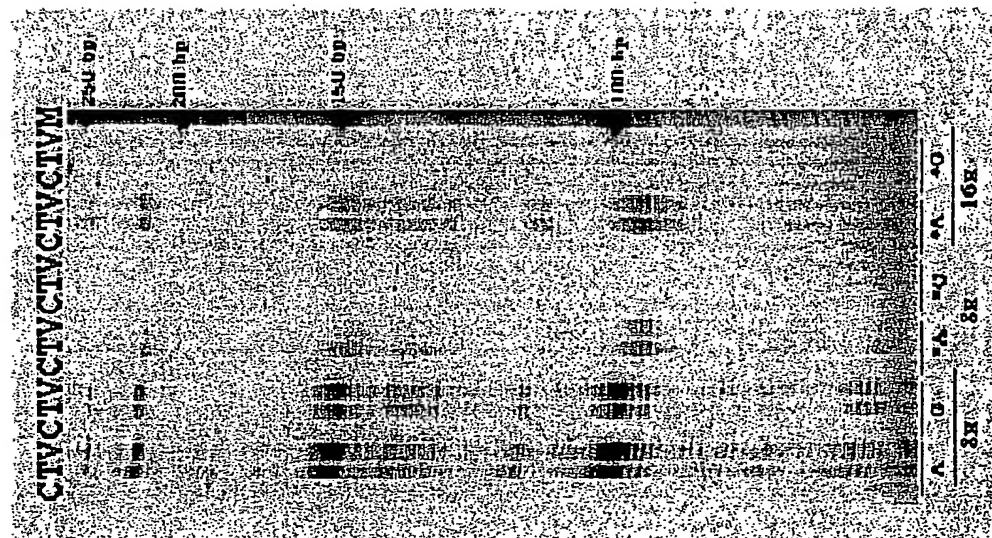


FIG. 16A

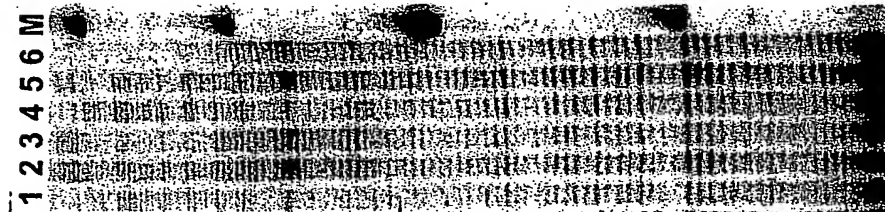


FIG. 16B

FIG. 17A

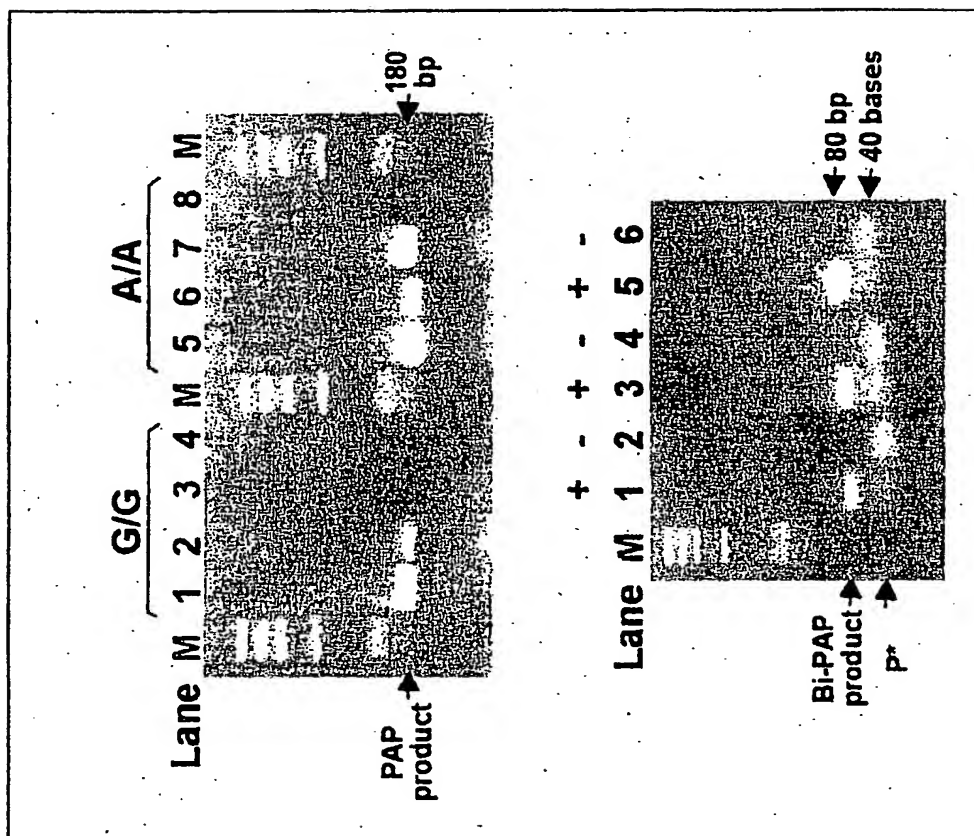


FIG. 17B

FIG. 18A

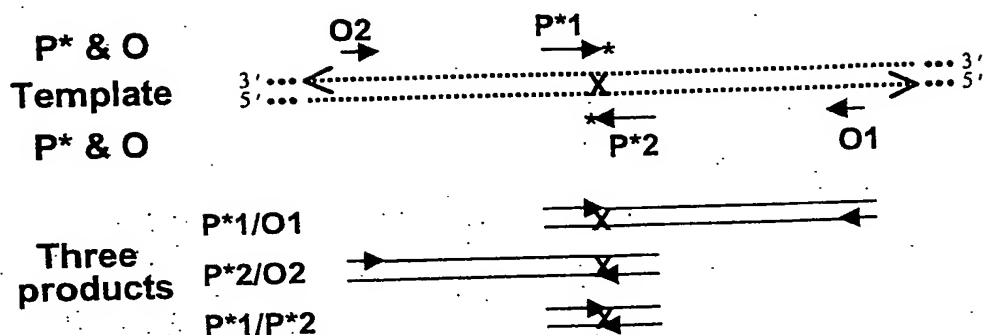


FIG. 18B

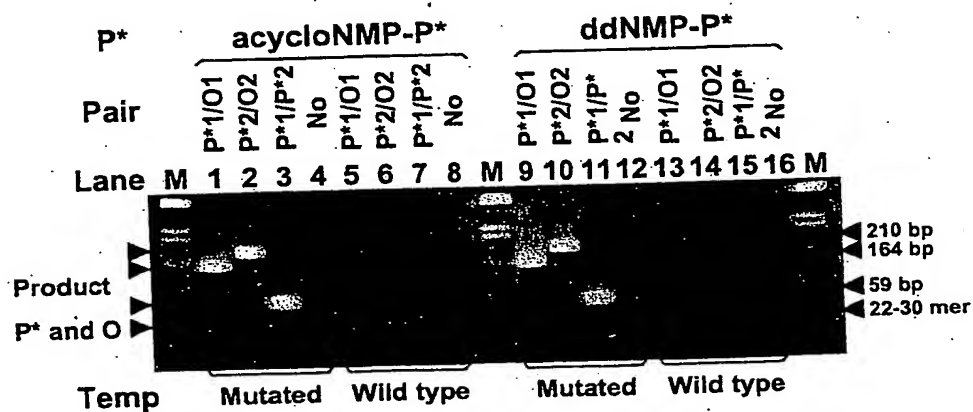
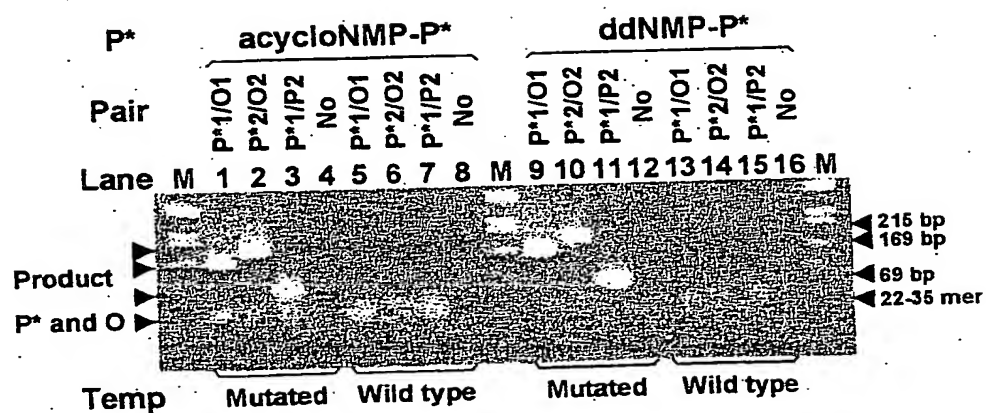
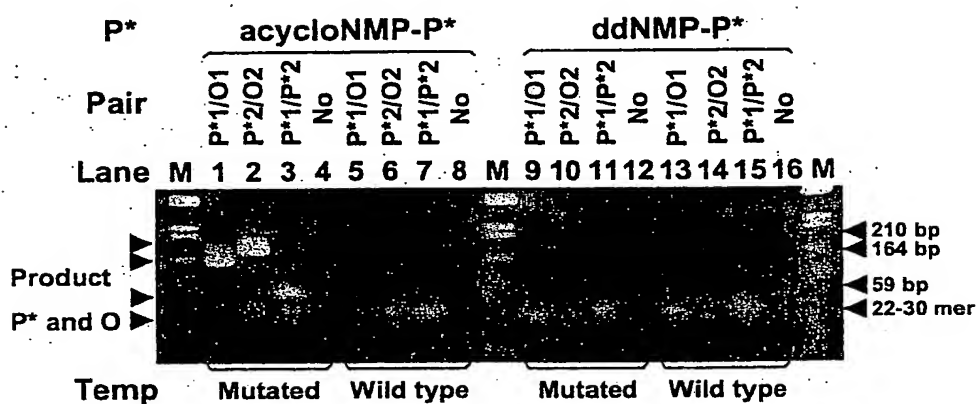


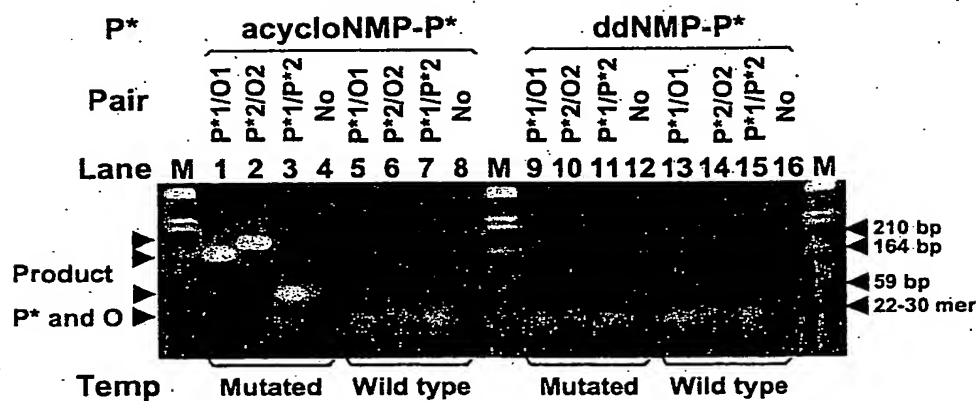
FIG. 18C



**FIG. 18D.**



**FIG. 18E**



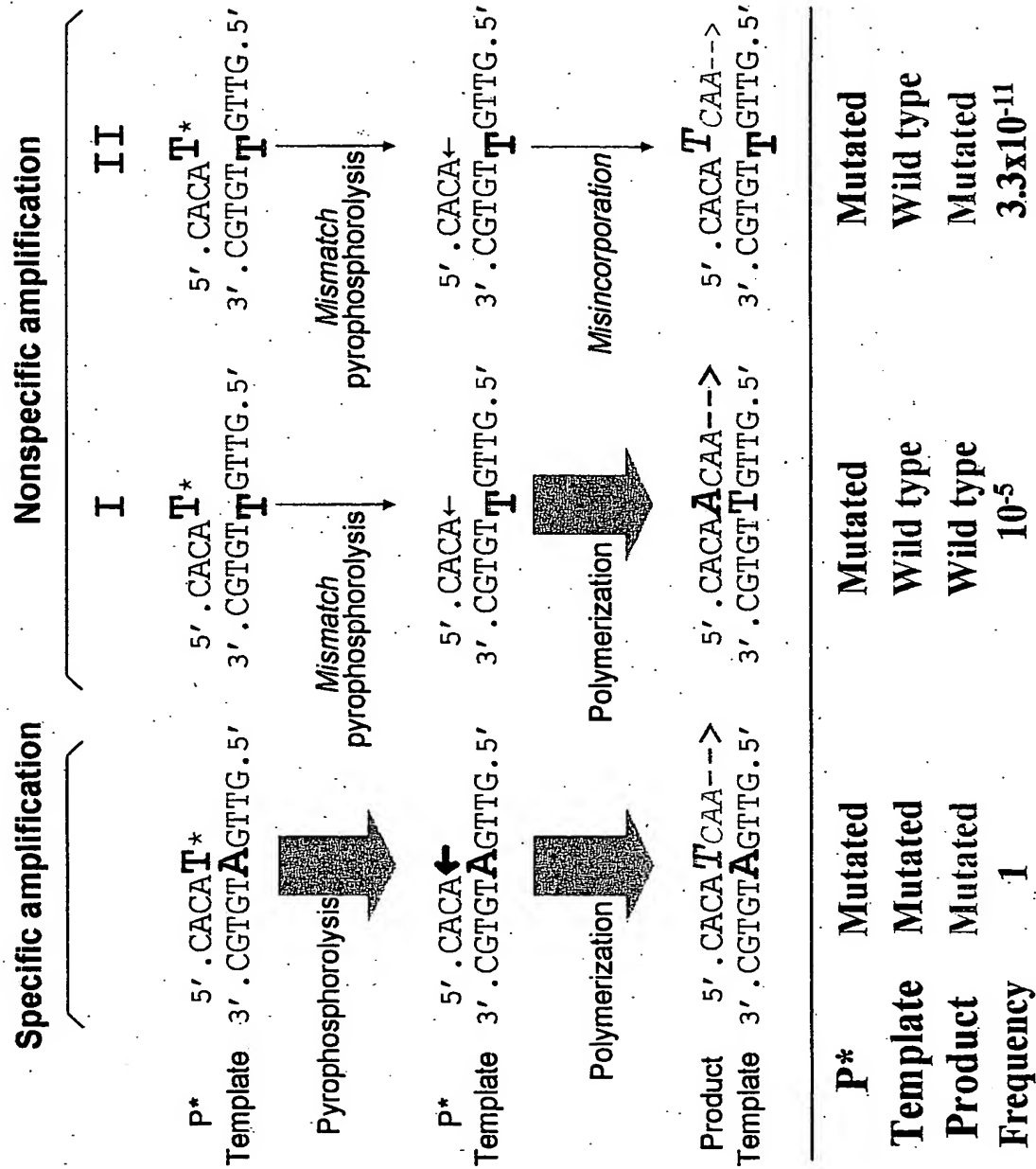


FIG. 19

Template : P\* Match Product  
 Mut:Mut Yes Yes

Template : P\* Match Product  
 WT:Mut No No

P\* 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

T 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

P\* 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

↓ Bi-PAP

P 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

P 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

FIG. 20A



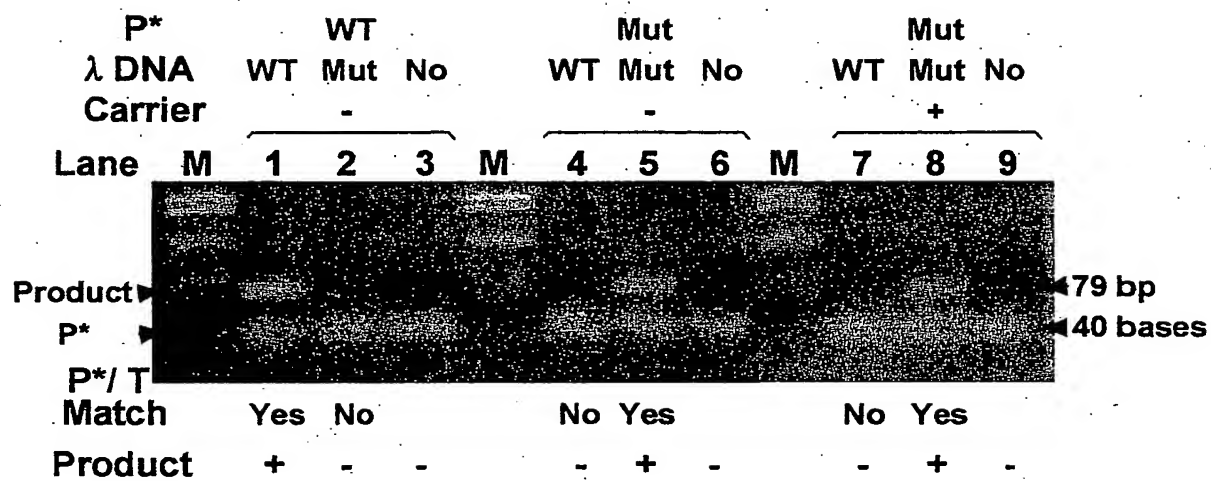


FIG. 20B

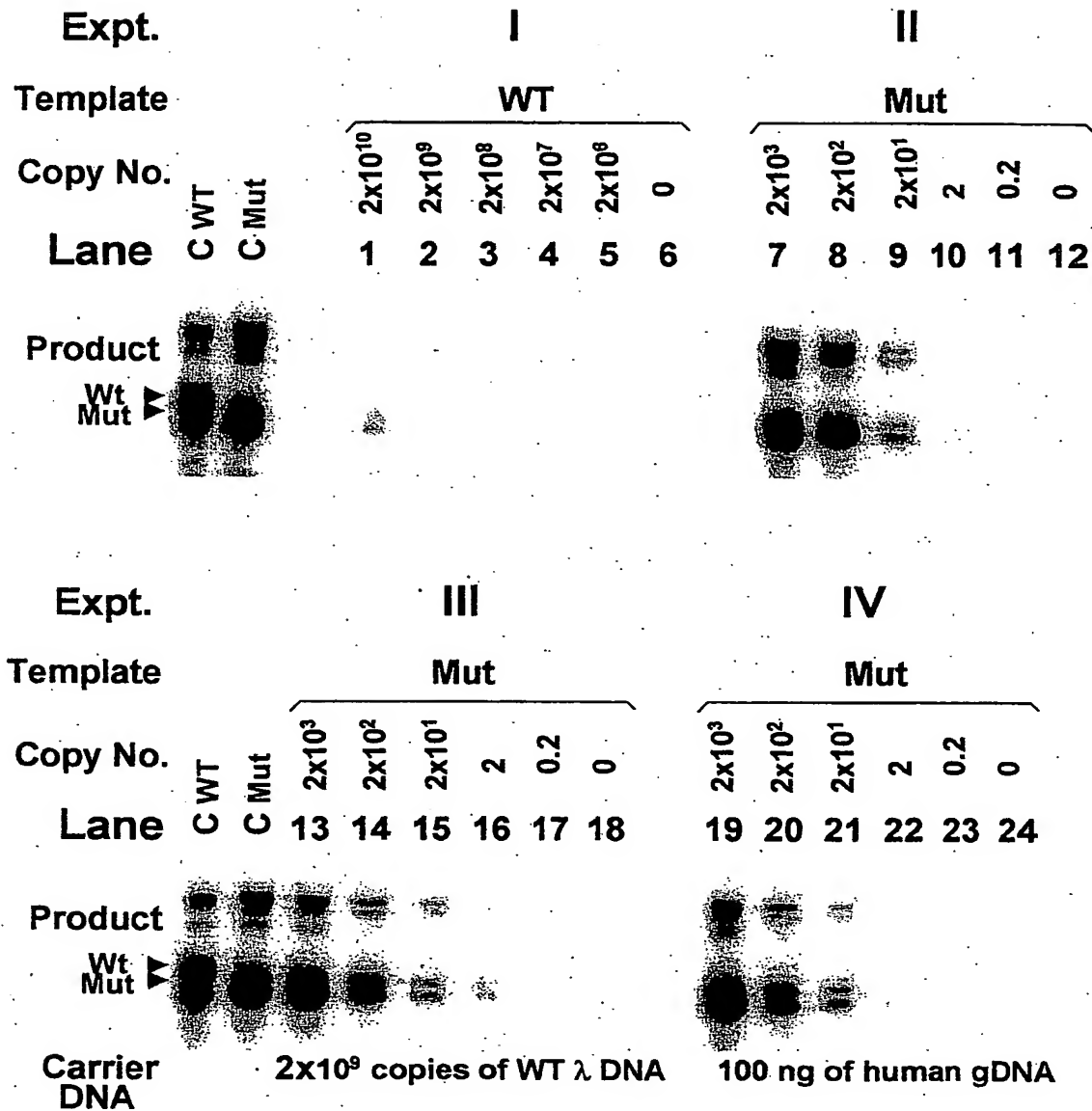
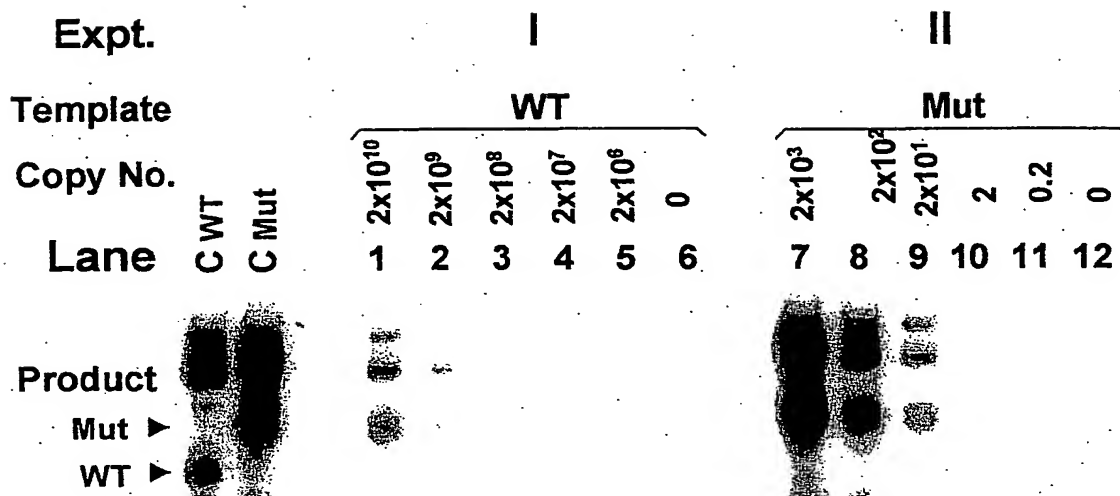
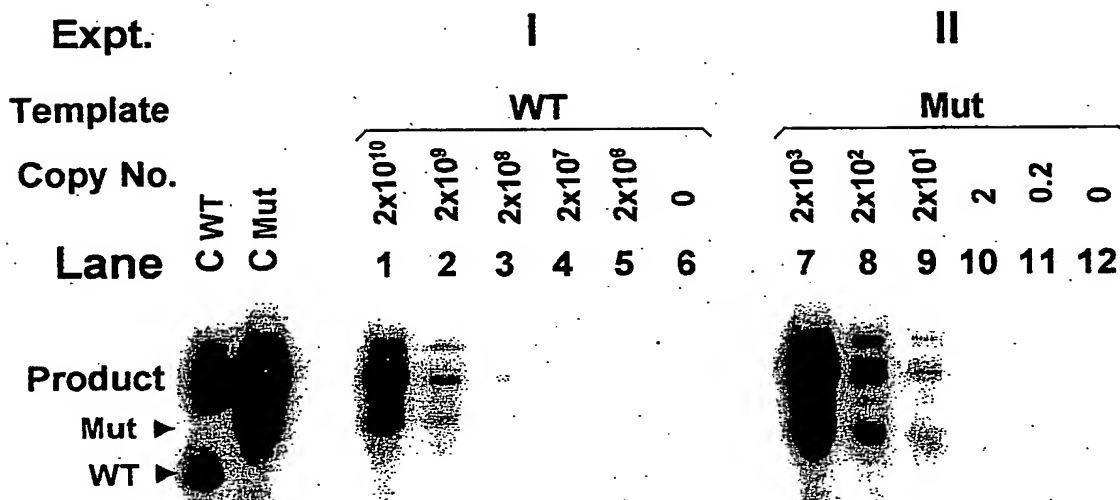


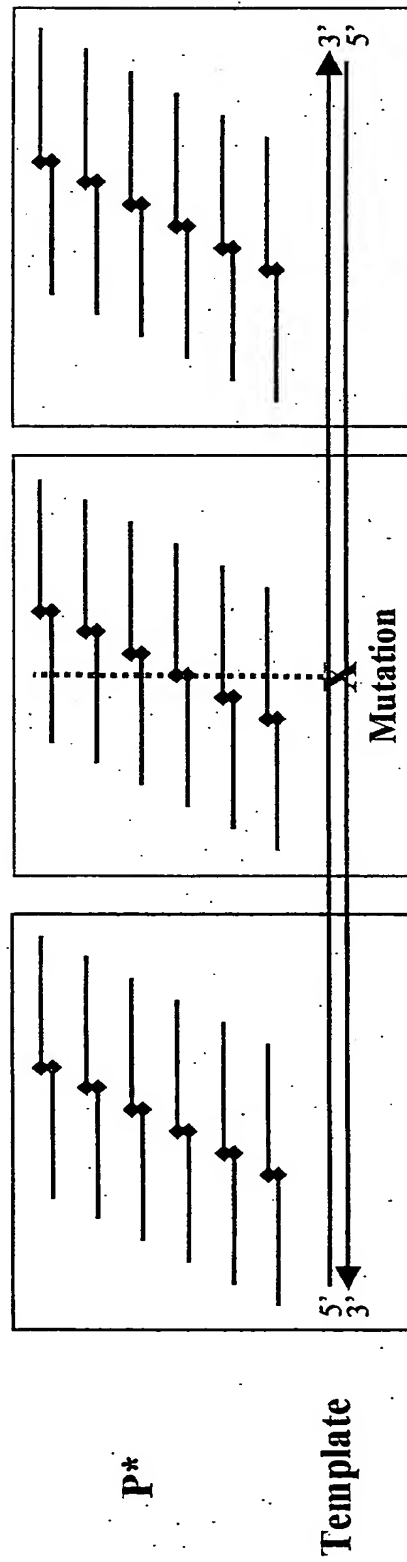
FIG. 21A




**FIG. 21B**




**FIG. 21C**



**FIG. 22**

<b>Wildtype</b>	5' . GCGTGGCACA <b>A</b> CAACTGGCGG . 3'	
<b>Template</b>	3' . CGCACC GTGT <b>T</b> GTTGACCGCC . 5'	<b><u>Match</u></b>
	<b>WT</b> 5' ...TGGCACA <b>A</b> * * <b>T</b> GTTGACC...5'	<b>Yes</b>
	<b>Mut</b> 5' ...TGGCACA <b>T</b> * * <b>A</b> GTTGACC...5'	<b>No</b>
<b>P*</b>		
	<b>Mut</b> 5' ...TGGCACA <b>G</b> * * <b>C</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b> 5' ...TGGCACA <b>C</b> * * <b>G</b> GTTGACC...5'	<b>No</b>
 <b>PAP</b>		
		<b><u>Product</u></b>
	<b>WT</b> 5' ...TGGCACA <b>A</b> CAACTGG...> <...ACCGTGT <b>T</b> GTTGACC...5'	<b>+</b>
	<b>Mut</b> 5' ...TGGCACA <b>T</b> * * <b>A</b> GTTGACC...5'	<b>-</b>
<b>P*</b>		
	<b>Mut</b> 5' ...TGGCACA <b>G</b> * * <b>C</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b> 5' ...TGGCACA <b>C</b> * * <b>G</b> GTTGACC...5'	<b>-</b>

**FIG. 23A**

<b>Mutant</b>	5' .GCGTGGCACA <b>T</b> CAACTGGCGG .3'	
<b>Template</b>	3' .CGCACCGTGT <b>A</b> GTTGACCGCC .5'	<b><u>Match</u></b>
<b>P*</b>	<b>WT</b> 5'...TGGCACA <b>A*</b> * <b>T</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b> 5'...TGGCACA <b>T*</b> * <b>A</b> GTTGACC...5'	<b>Match</b>
	<b>Mut</b> 5'...TGGCACA <b>G*</b> * <b>C</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b> 5'...TGGCACA <b>C*</b> * <b>G</b> GTTGACC...5'	<b>No</b>
 <b>PAP</b>		<b><u>Product</u></b>
<b>P*</b>	<b>WT</b> 5'...TGGCACA <b>A*</b> * <b>T</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b> 5'...TGGCACA <b>T</b> CAACTGG...> <...ACCGTGT <b>A</b> GTTGACC...5'	<b>+</b>
	<b>Mut</b> 5'...TGGCACA <b>G*</b> * <b>C</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b> 5'...TGGCACA <b>C*</b> * <b>G</b> GTTGACC...5'	<b>-</b>

**FIG. 23B**

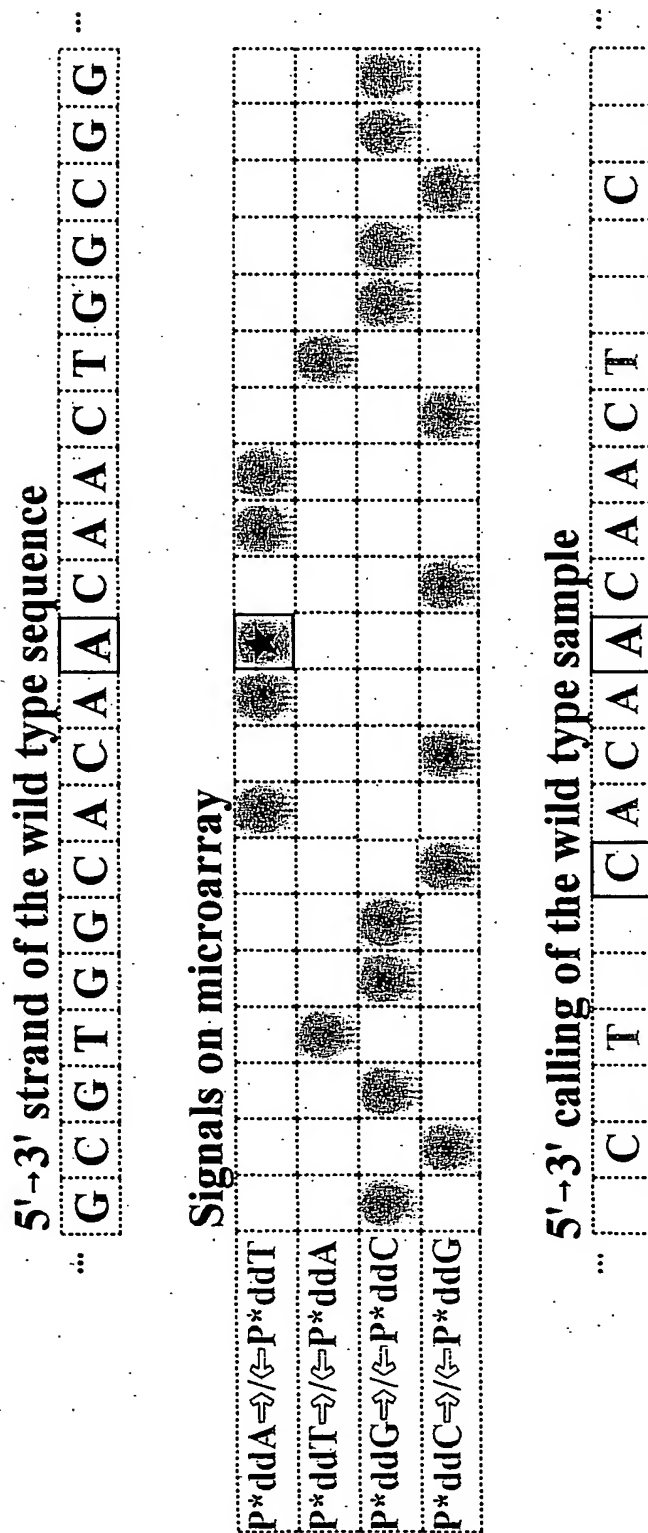
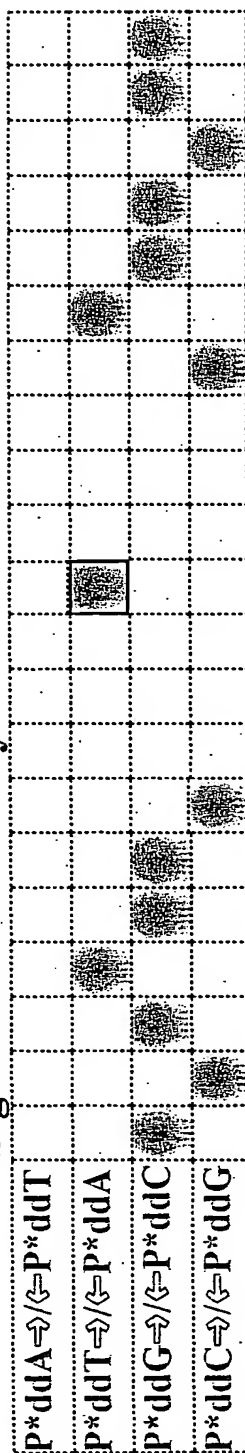


FIG. 24A

G	C	G	T	G	C	A	C	A	C	T	G	G	C	G	...
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

## Signals on microarray



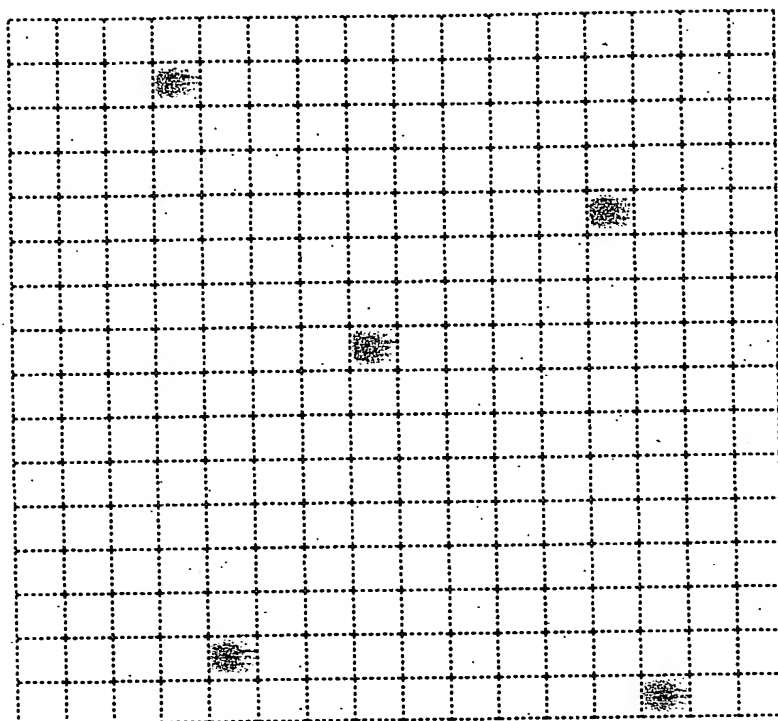
***< mutation window >***

### 5'→3' calling of the mutated sample

...	C	T	C	T	C
-----	---	---	---	---	---

**FIG. 24B**





Assembly of positive signals by one base overlapping

```

.....
5'...TGGCACAA*
      *TGTTGACC...5'

5'...GGCACAAC*
      *GTTGACCG...5'

5'...GCACAACA*
      *TTGACCGC...5'

5'...CACAACAA*
      *TGACCGCC...5'
  
```

Reconstruction of the unknown sequence

```

5'.....ACAA.....3'
3'.....TGTT.....5'
  
```

**FIG. 25**

FIG. 26A

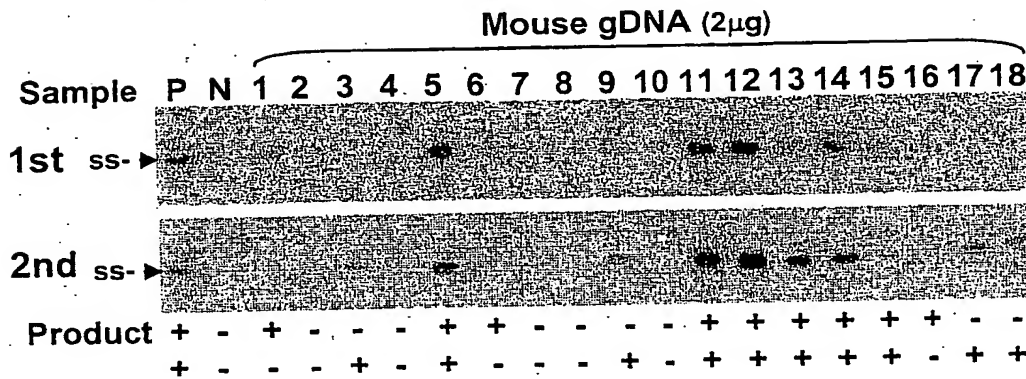


FIG. 26B

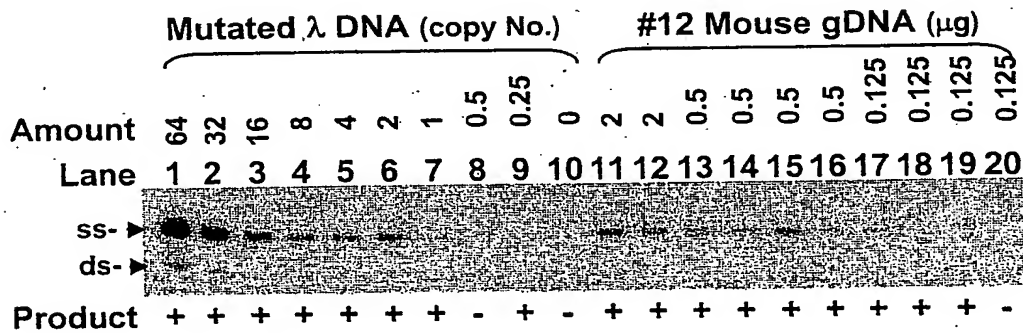


FIG. 26C

